# APPENDIX G

## THREATENED, ENDANGERED, PROPOSED, AND CANDIDATE BLM SENSITIVE SPECIES

Triton Coal Company LLC, operator of the Buckskin surface coal mine in Campbell County, Wyoming has applied to lease a tract of federal coal as a maintenance lease under the Leasing on Application regulations at 43 CFR 3425, as discussed in chapter 1 of this environmental impact statement (EIS). The tract is referred to as the West Hay Creek lease by application (LBA) tract. This appendix provides information about the potential environmental effects that leasing this tract would have on federally threatened, endangered, proposed, and candidate species and Bureau of Land Management (BLM) designated sensitive species.

## ANALYSIS AREA DESCRIPTION

The analysis area is shown in figure 3-1 in chapter 3 of this EIS. It includes a portion of Township 52 North, Range 72 West, in Campbell County, Wyoming. The analysis area includes the tract as applied for and the adjacent lands BLM is considering adding to the tract. The analysis area lies within the current permit area for the Buckskin Mine

The analysis area is located in the eastern portion of the Powder River Basin (PRB), a part of the Northern Great Plains that includes most of northeastern Wyoming. Vegetation is primarily big sagebrush and sandy prairie grassland. The climate is semi-arid, with an average annual precipitation at the Buckskin Mine of about 10.5 inches. June (1.94 inches) and May (1.94 inches) are the wettest months, and January and February (0.12 inches) are the driest. Snowfall at the Gillette 9ESE station averages 58 inches per year, with most occurring in March (10.3 inches) and April (8.6 inches) (Western Regional Climate Center 2002). The average annual wind speed for the period 1983 through 1998 at the Buckskin Mine (figure 3-5) was 10.3 mph.

The analysis area is drained by Hay Creek, a tributary of the Little Powder River, shown in figure 3-9 of this EIS. Elevations in the tract range from about 4,100 to 4,340 feet.

The surface estate included in the LBA tract is privately owned. More detailed information about the general analysis area is included in chapter 3.

## CONSULTATION HISTORY

The LBA tract as applied for and the existing federal coal leases and existing approved mine permit boundary for the adjacent Buckskin Mine are shown in figure 1-2 in chapter 1 of this EIS. Consultation with the U.S. Fish and Wildlife Service (FWS) has previously occurred for all lands that are within the existing approved mine permit area for the Buckskin Mine. In the March 2002 mining plan decision document for the Buckskin Mine is a letter dated January 23, 2001, from Mike Long, FWS, Cheyenne, Wyoming, to Don Crecelius, Wyoming DEQ Land Quality Division, indicating that no impacts to

threatened or endangered species, or species proposed for listing, are anticipated from the Hay Creek permit amendment action, as proposed. A second letter dated January 29, 2001, from Mike Long, FWS, Cheyenne, Wyoming, to Don Crecelius, Wyoming DEQ Land Quality Division, Sheridan, Wyoming, indicated that the raptor and migratory birds of high federal interest plans for the Buckskin Mine Hay Creek permit amendment had been approved. The West Hay Creek LBA tract as applied for and anticipated disturbance area lie completely within the Buckskin Mine permit area as amended by the Hay Creek permit amendment action.

## DESCRIPTION OF THE PROPOSED ACTION

Under the Proposed Action, the West Hay Creek LBA tract as applied for by Triton, would be offered for lease at a competitive sale. The tract as applied for includes approximately 838.0975 mineable acres. Under Alternative 2, the lease area would contain approximately 1,014.28 acres and Alternative 3 would encompass approximately 869.29 acres within the lease areas. The Proposed Action tract and the BLM alternatives are shown in figure 2-1.

## FEDERALLY ENDANGERED, THREATENED, PROPOSED, AND CANDIDATE SPECIES BIOLOGY AND HABITAT REQUIREMENTS

The following discussion evaluates the potential environmental effects of the Proposed Actions and alternatives on federally endangered, threatened, proposed, and candidate species.

> An animal or plant that is in danger of extinction within the foreseeable future throughout all or a significant portion of its range is said to be *endangered.*
>
> An animal or plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range is said to be *threatened.*
>
> Any species of animal or plant that is proposed to be listed under Section 4 of the Endangered Species Act by notice in the *Federal Register* is said to be *proposed.*
>
> Any species considered by the FWS as a possible addition to the lists of threatened and endangered (T&E) wildlife and plants is said to be a *candidate.*

The following is a list of species that was provided by the FWS (2002), representing all federally listed T&E species, species proposed for listing, and candidate species that may occur in the general analysis area.

> Bald eagle *(Haliaetus leucocephalus)*: Federally listed as *threatened*.
>
> Ute ladies'-tresses *(Spiranthes diluvialis)*: Federally listed as t*hreatened.*
>
> Black-footed ferret *(Mustela nigripes)*: Federally listed as e*ndangered.*

Mountain plover *(Charadrius montanus)*: Federally designated as p*roposed* t*hreatened.*

Black-tailed prairie dog *(Cynomys ludovicianus)*: c*andidate.*

## ENDANGERED, THREATENED, PROPOSED, AND CANDIDATE SPECIES BIOLOGY AND HABITAT REQUIREMENTS

The BLM Casper Field Office contacted the FWS, Ecological Services office in Cheyenne, Wyoming and requested a species list. The species discussed herein were provided to BLM in a letter dated August 2, 2002. The following species have been identified as known, suspected to occur, or potentially occurring on the lands involved in this lease action.

### Threatened Species

#### Bald eagle *(Haliaetus leucocephalus)*

Bald eagle *(Haliaeetus leucocephalus*) is a federally listed threatened species (FWS 1995). Bald eagles occur throughout North America from Alaska to Newfoundland and from the southern tip of Florida to southern California. In Wyoming, this species builds large nests in the crown of large mature trees such as cottonwoods or pines. Food availability is probably the single most important determining factor for bald eagle distribution and abundance. Fish and waterfowl are the primary sources of food where eagles occur along rivers and lakes. Big game and livestock carrion, as well as larger rodents (prairie dogs) also can be important dietary components where these resources are available (Ehrlich et al. 1988). This species is an uncommon breeding resident in Wyoming using mixed coniferous and mature cottonwood-riparian areas near large lakes or rivers as nesting habitat (Luce et al. 1999).

Bald eagles are closely associated with water, with nest sites commonly less than 1 mile from a lakeshore or riverbank. Large trees are necessary to support eagle nests, typically cottonwoods or several conifer species. Nest trees are often the largest trees in the stand. Typically, there are alternate nests within or in close proximity to the nest stand. Snags and open-canopied trees near the nest site and foraging areas provide favorable perch sites. Old-growth stands with their structural diversity and open canopies are an important habitat for bald eagles. Bald eagles that have open water or alternate food sources near their nesting territories may stay for the winter; other eagles migrate southward to areas with available prey.

#### Ute ladies' - tresses *(Spiranthes diluvialis)*

Ute ladies'-tresses was listed as threatened on January 17, 1992 due to a variety of factors, including habitat loss and modification, and hydrological modifications of existing and potential habitat areas. At the time of listing, Ute ladies'-tresses was only

known from Colorado, Utah, and extreme eastern Nevada. It was then discovered in Idaho in September 1996.

Ute ladies'-tresses orchid (*Spiranthes diluvialis*) is a perennial herb with erect, glandular-pubescent stems 12 to 50 centimeters tall arising from tuberous-thickened roots. This species flowers from late July to September. Plants probably do not flower every year and may remain dormant below ground during drought years.

The total known population of this species is approximately 25,000 to 30,000 individuals. Occurrences range in size from one plant to a few hundred individuals. It is currently known from western Nebraska, southeastern Wyoming, north-central Colorado, northeastern and southern Utah, east-central Idaho, southwestern Montana, and central Washington. In Wyoming, Ute ladies'-tresses orchid is known from the western Great Plains in Converse, Goshen, Laramie, and Niobrara counties.

Ute ladies'-tresses orchid occurs primarily on moist, subirrigated or seasonally flooded soils in valley bottoms, gravel bars, old oxbows, or floodplains bordering springs, lakes, rivers, or perennial streams at elevations between 1,780 and 6,800 feet (Fertig and Beauvais 1999). Suitable soils vary from sandy or coarse cobbley alluvium to calcareous, histic, or fine-textured clays and loams. Populations have been documented from alkaline sedge meadows, riverine floodplains, flooded alkaline meadows adjacent to ponderosa pine, Douglas fir woodlands, sagebrush steppe, and streamside floodplains. Some occurrences are also found on agricultural lands managed for winter or early season grazing or hay production. Known sites often have low vegetative cover and may be subjected to periodic disturbances such as flooding or grazing. Populations are often dynamic and "move" within a watershed as disturbances create new habitat or succession eliminates old habitat (Fertig and Beauvais 1999).

This species is known from four occurrences in Wyoming, all discovered between 1993 and 1997 (Fertig and Beauvais 1999). One of these occurrences is recorded from northwestern Converse County.

## Endangered Species

### Black-footed Ferret *(Mustela nigripes)*

Black-footed ferret *(Mustela nigripes)* is a federally listed endangered species. The black-footed ferret historically occurred throughout Texas, Oklahoma, New Mexico, Arizona, Utah, Kansas, North and South Dakota, Montana, Wyoming, Nebraska, and Colorado. The black-footed ferret is closely associated with prairie dogs, depending almost entirely upon the prairie dog for its survival. The decline in ferret populations has been attributed to the reduction in the extensive prairie dog colonies that historically existed in the western United States. Ferrets may occur within colonies of white-tailed or black-tailed prairie dogs. The FWS has determined that, at a minimum, potential habitat for the black-footed ferret must include a single white-tailed prairie dog colony of greater than 200 acres, or a complex of smaller colonies within a 4.3 mile (7 km) radius

circle totaling 200 acres (FWS 1989). Minimum colony size for black-tailed prairie dog is 80 acres (FWS 1989). The last known wild population was discovered in Meeteetse, Wyoming. Individuals from this population were captured and raised in protective captive breeding facilities in an effort to prevent the species' extinction (Clark and Stromberg 1987).

Recent survey efforts in the Shirley Basin have identified a population at this former re-introduction site. This is the only known population in Wyoming.

## Proposed Species

### Mountain Plover *(Charadrius montanus)*

The mountain plover *(Charadrius montanus)* is proposed for federal listing (FWS 1999a). The FWS has 60 days to seek input from three species experts, the public, scientific community, and federal and state agencies. A 60-day extension to the comment period was published on April 19, 1999 (FWS 1999b). In October 2001, the mountain plover was designated as a proposed threatened species (FWS 2001a).

This species uses high, dry, shortgrass prairie with vegetation typically shorter than four inches tall. Within this habitat, areas of blue grama (*Bouteloua gracilis*) and buffalograss (*Buchloe dactyloides*) are most often used, as well as areas of mixed-grass associations dominated by needle-and-thread (*Hesperostipa comata*) and blue grama (Dinsmore 1983).

Nests consist of a small scrape on flat ground in open areas. Most nests are placed on slopes of less than five degrees in areas where vegetation is less than three inches tall in April. More than half of identified nests occurred within 12 inches of old cow manure piles and almost twenty percent were found against old manure piles in similar habitats in Colorado. Nests in similar habitats in Montana (Dinsmore 1983) and other areas (Ehrlich et al. 1988) were nearly always associated with the heavily grazed short-grass vegetation of prairie dog colonies.

Mountain plovers arrive on their breeding grounds in late March with egg-laying beginning in late April. Clutches are hatched by late June and chicks fledge by late July. The fall migration begins in late August and most birds are gone from the breeding grounds by late September.

## Candidate Species

### Black-tailed Prairie Dog (Cynomys ludovicianus)

Black-tailed prairie dog (Cynomys ludovicianus) was added to the list of candidate species for federal listing on February 4, 2000 (FWS 2000a). At that time, the FWS concluded that listing the black-tailed prairie dog was warranted but precluded by other higher priority actions to amend the lists of threatened and endangered species. No

specific date for proposal for listing was given, but the FWS has committed to reviewing the status of the species one year after publication of the notice mentioned previously (February 4, 2001) (FWS 2000b). As of October 2001, the candidate status of the black-tailed prairie dog had not been changed (FWS 2001a).

The black-tailed prairie dog is a highly social, diurnally active, burrowing mammal. Aggregations of individual burrows, known as colonies, form the basic unit of prairie dog populations. Found throughout the Great Plains in shortgrass and mixed-grass prairie areas (Fitzgerald et al. 1994), the black-tailed prairie dog has declined in population numbers and extent of colonies in recent years due to habitat destruction or disturbance, and pest control activities. In Wyoming, this species is primarily found in isolated populations in the eastern half of the state (Clark and Stromberg 1987). Many other wildlife species, such as the black-footed ferret, swift fox, mountain plover, ferruginous hawk, and burrowing owl are dependant on the black-tailed prairie dog for some portion of their life cycle (FWS 2000b).

This species is considered a common resident, using shortgrass and mid-grass habitats in eastern Wyoming (Luce et al. 1999).

## PROPOSED ACTIONS

The locations of the West Hay Creek LBA tract for the Proposed Action and alternatives are shown in figure 2-1 in chapter 2 of this EIS.

Within the analysis area, there is no “critical” habitat designated by the FWS for threatened or endangered species. The Wyoming Game and Fish Department also declared that there is no crucial or important habitat within the analysis area.

### Threatened, Endangered, Experimental, Proposed, and Candidate Species

| Status | Name | Status * |
|---|---|---|
| **Threatened** | Bald eagle *(Haliaetus leucocephalus)* | Known occurrence in vicinity |
| | Ute ladies’ - tresses *(Spiranthes diluvialis)* | Not suspected in area of influence of proposed action |
| **Endangered** | Black-footed ferret *(Mustela nigripes)* | Not suspected in area of influence of proposed action |
| **Proposed** | Mountain plover *(Charadrius montanus)* | Not suspected in area of influence of proposed action |
| **Candidate** | Black-tailed prairie dog *(Cynomys ludovicianus)* | Not suspected in area of influence of proposed action |

## Threatened Species

### Bald eagle *(Haliaetus leucocephalus)*

Existing Environment: Surveys for raptors and bald eagles were conducted on the analysis area in 1999 by PRES. The West Hay Creek LBA tract as applied for is within the Buckskin Mine permit area and has been subject to annual surveys in recent years. No appropriate roosting habitat exists on the West Hay Creek tract itself. A limited amount of apparently suitable habitat occurs within the 2-mile perimeter, in the form of pine-fringed rough breaks, and cottonwood groves along the Little Powder River.

A dawn aerial survey of potential roost habitat in February 2000 did not reveal any roosts, and no bald eagles were observed. Only two bald eagles were recorded during baseline fieldwork, both in March 1999. On 13 March, an adult was seen perched on the ground in grassland in mid-SW section 19, west of the amendment area. On March 31, a juvenile bald eagle was recorded flying over Hay Creek on the amendment area in NE SE section 17.

Effects of Proposed Project: Issuing a federal coal lease for the West Hay Creek LBA tract under the Proposed Action or one of the alternatives may affect, but is not likely to adversely affect, bald eagles or their habitat. There is no roosting habitat on the tract. Bald eagle foraging habitat would potentially be lost on the tract during mining and before final reclamation. The loss of any potential prey habitat would be short-term.

### Ute ladies' - tresses *(Spiranthes diluvialis)*

Existing Environment: Habitat Management, Inc. surveyed the analysis area between April through October 1999 for threatened, endangered, or candidate plant species. Specific surveys for Ute ladies'-tresses were conducted in June, July, and August 1999. No Ute ladies'-tresses or suitable habitat areas were identified as a result of the survey. Ute ladies' tresses typically grow in shaded areas, particularly near willows, and require gravelly substrate. Wet meadow and emergent marsh areas identified in the analysis area do not provide suitable habitat because of the lack of willows and shaded areas, and because of the heavier clay soils. Additionally, livestock traffic in the area has limited the potential for the growth of the delicate plant.

Effects of Proposed Project: The Proposed Action will have no effect on Ute ladies'-tresses.

## Endangered Species

### Black-footed ferret *(Mustela nigripes)*

Existing Environment: Black-footed ferrets are potential residents in prairie dog *(Cynomys* sp.) colonies. No prairie dog colonies were identified in or within 1 mile of the analysis area as a result of surveys conducted by PRES in 1999.

Effects of the Proposed Project: Issuing a federal coal lease for the West Hay Creek LBA tract under the Proposed Action or one of the alternatives will have no effect on black-footed ferrets.

## Proposed Species

### Mountain plover *(Charadrius montanus)*

Existing Environment: Mountain plover is a potential resident in short-grass prairie and shrub-steppe landscapes. No mountain plovers were identified during baseline surveys conducted by PRES in 1999. The only potential habitat that was identified was associated with a small prairie dog colony located more than 1 mile northeast of the proposed tract. The colony is surrounded by ridges that do not allow distance visibility in most directions. According to recent literature (Knopf 1996) mountain plovers prefer flat, open terrain, and do not tend to inhabit areas that do not have good sightlines. In any case, it is doubtful that mountain plovers would occupy such a small patch of potential habitat in the midst of otherwise unsuitable habitat. Similarly, the sandy-prairie vegetation type areas are not suitable habitat areas because of poor sightlines and limited aerial extent.

Effects of the Proposed Project: Issuing a federal coal lease for the West Hay Creek LBA tract under the Proposed Action or one of the alternatives is not likely to jeopardize mountain plover. The typical suitable habitat for this species is not currently located on the tract.

## Candidate Species

### Black-tailed Prairie Dog *(Cynomys ludovicianus)*

Existing Environment: No prairie dog colonies were identified in or within 1 mile of the proposed lease tract as a result of surveys conducted by PRES in 1999.

Effects of the Proposed Project: Issuing a federal coal lease for the West Hay Creek LBA tract under the Proposed Action or one of the alternatives is not likely to jeopardize black-tailed prairie dogs because no prairie dog towns are located on the tract.

## REGULATORY REQUIREMENTS AND MITIGATION

The issuance of a federal coal lease grants the lessee the exclusive rights to mine the coal, subject to the terms and conditions of the lease. Lease ownership is necessary for mining federal coal, but lease ownership does not authorize mining operations. No operations can occur on the leased lands until both the MLA mining plan and the state mining and reclamation permit are approved under the applicable Wyoming state regulations (section 1.2). If the West Hay Creek LBA tract is leased as proposed, it would be a maintenance lease for the existing Buckskin Mine, which has a currently approved MLA mining plan and state mining and reclamation permit. The LBA tract is located within the permit area for the existing MLA mining plan and state mining and reclamation plan, but that plan would have to be modified to include mining the coal in the newly leased area before coal removal could occur.

As part of the application and approval process for MLA mining plans and state mining and reclamation permits, coal lessees are required to conduct additional surveys and other evaluations as needed to ensure compliance with the Endangered Species Act. The FWS will again be consulted during the permit application review process. Permit applications are based on an actual detailed site-specific mining and reclamation proposal and the most current survey information.

The following is a partial list of measures that the state of Wyoming could require as part of the mining and reclamation permit in accordance with the state regulatory requirements:

- avoiding bald eagle disturbance;
- restoring bald eagle foraging areas disturbed by mining;
- restoring mountain plover habitat;
- using raptor safe power lines;
- surveying for Ute ladies'-tresses if habitat is present;
- surveying for mountain plover if habitat is present;
- surveying for black-footed ferrets in prairie dogs towns potentially affected by mining.

## CUMULATIVE IMPACTS

If the lease sale is completed as proposed and Triton acquires and mines the coal in the West Hay Creek tract, the mining operations could contribute to cumulative effects to T&E plant and wildlife species in the Powder River Basin (PRB). Other activities that are contributing to cumulative effects to T&E plant and wildlife species in the PRB include coal mining in Campbell and Converse counties, Wyoming and Big Horn County, Montana; conventional and CBM oil and gas development; uranium mining; sand, gravel, and scoria mining; ranching; agriculture; road, railroad, and power plant construction; recreational activities, and rural and urban housing development. Mining and construction activities and urban development tend to have more intense impacts on fairly localized areas, while ranching, recreational activities, and oil and gas development tend to be less intensive but spread over larger areas. Oil and gas development and mining activities have requirements for reclamation of disturbed areas as resources are depleted. The net area of energy disturbance in the Wyoming PRB is increasing overall, however, as new areas of disturbance are added, mined-out areas are restored and reclaimed and oil and gas well sites are reclaimed when depleted oil and gas wells are abandoned.

The total acreage affected by coal mining and oil and gas development would not be disturbed simultaneously, because development would occur over the life of the operations. Some of the disturbed acreage would be reclaimed or would be in the process of being reclaimed when new disturbances are initiated. In the near future, the amount of disturbed T&E plant and wildlife habitats is likely to increase, although reclamation would eventually overtake new development.

Cumulative effects would also occur to T&E plant and wildlife resources as a result of indirect impacts. One factor is the potential import and spread of noxious weeds around roads and facilities. Noxious weeds have the ability to displace native vegetation and hinder reclamation efforts. If weed mitigation and preventative procedures are applied to all construction and reclamation practices, the impact of noxious weeds on T&E plants and wildlife would be minimized.

In reclaimed areas, vegetation cover often differs from undisturbed areas. In the case of surface coal mines, re-established vegetation would be dominated by species mandated in the reclamation seed mixtures (to be approved by WDEQ). The majority of the approved species are native to the area. Reclaimed areas may not serve ecosystem functions presently served by undisturbed vegetation communities and habitats, particularly in the short-term, when species composition, shrub cover, and other environmental factors are likely to be different. Establishment of noxious weeds and alternation of vegetation on reclaimed areas has the potential to alter T&E plant and wildlife habitat composition and distribution. As a result, shifts in habitat composition or distribution may affect T&E plant and wildlife species in the PRB.

## BLM SENSITIVE SPECIES EVALUATION

### Introduction

Wyoming BLM has prepared a list of sensitive species to focus species management efforts towards maintaining habitats under a multiple use mandate. The authority for this policy and guidance comes from the Endangered Species Act of 1973, as amended; Title II of the Sikes Act, as amended; the Federal Land Policy and Management Act (FLPMA) of 1976; and the Department Manual 235.1.1A., General Program Delegation, Director, BLM.

The goals of the sensitive species policy are to:

- Maintain vulnerable species and habitat components in functional BLM ecosystems.
- Ensure sensitive species are considered in land management decisions.
- Prevent a need for species listing under the ESA.
- Prioritize needed conservation work with an emphasis on habitat.

## Sensitive Species List
## Buffalo Field Office

| Common Name (scientific name) | Habitat and Occurrence in West Hay Creek Analysis Area | Presence[1] | Project Effects[2] | Rationale |
|---|---|---|---|---|
| **Amphibians** | | | | |
| Northern leopard frog (Rana pipiens) | Beaver ponds, permanent water in plains and foothills | S | MIIH | Stock reservoirs & natural pools will be impacted. |
| Spotted frog (Ranus pretiosa) | Ponds, sloughs, small streams. | NP | NI | Prairie habitat not mountain. |
| **Birds** | | | | |
| Baird's sparrow (Ammodramus bairdii) | Grasslands, weedy fields. Occurrence not recorded | S | MIIH | Sagebrush cover will be affected. |
| Brewer's sparrow (Spizella breweri) | Basin-prairie shrub. Regular breeder. | K | MIIH | Sagebrush cover will be affected. |
| Burrowing owl (Athene cunicularia) | Grasslands, basin-prairie shrub. Infrequent breeder. | K | MIIH | Grassland and shrubland habitats will be affected. |
| Ferruginous hawk (Buteo regalis) | Basin-prairie shrub, grasslands, rock outcrops. Historical breeder. | K | MIIH | Grassland and shrubland habitats will be affected. |
| Greater sage-grouse (Centrocercus urophasianus) | Basin-prairie shrub, mountain-foothill shrub. Occasional breeder. | K | MIIH | Sagebrush cover will be affected. |
| Loggerhead shrike (Lanius ludovicianus) | Basin-prairie shrub, mountain-foothill shrub. Infrequently observed. | K | MIIH | Sagebrush cover will be affected. |
| Long-billed curlew (Numenius americanus) | Grasslands, plains, foothills, wet meadows. Infrequent spring migrant. | K | MIIH | Grassland & wet meadow habitats will be affected. |
| Northern goshawk (Accipiter gentilis) | Conifer and deciduous forests. | NP | NI | Forest habitat limited to cottonwood shelterbelt. |
| Peregrine falcon (Falco peregrinus) | Cliffs. Never recorded | NP | NI | No nesting habitat. |
| Sage sparrow (Amphispiza billneata) | Basin-prairie shrub, mountain-foothill shrub. Never recorded | S | MIIH | Sagebrush cover will be affected. |
| Sage thrasher (Oreoscoptes montanus) | Basin-prairie shrub, mountain-foothill shrub. Rarely observed. | K | MIIH | Sagebrush cover will be affected. |
| Trumpeter swan (Cygnus buccinator) | Lakes, ponds, rivers | NP | NI | Suitable habitat not present. |
| White-faced ibis (Plegadis chihi) | Marshes, wet meadows | NP | NI | Permanently wet meadows not present. |
| Yellow-billed cuckoo (Coccyzus americanus) | Open woodlands, streamside willow and alder groves. Never recorded | NP | NI | Shrub or forest riparian habitats not present. |
| **Fish** | | | | |
| Yellowstone cutthroat trout (Oncoryhynchus clarki bouvieri) | Mountain streams and rivers in Yellowstone River drainage | NP | NI | Outside species range. |

| ommon Name<br>ientific name) | Habitat and Occurrence in<br>West Hay Creek Analysis Area | Presence[1] | Project Effects[2] | Rationale |
|---|---|---|---|---|
| **Mammals** | | | | |
| Dwarf Shrew<br>(Sorex nanus) | Mountain foothill shrub, grasslands | | S | MIIH |
| Fringed myotis<br>(Myotis thysanodes) | Conifer forests, woodland chaparral, caves and mines | | NP | NI |
| Long-eared myotis<br>(Myotis evotis) | Conifer and deciduous forest, caves and mines | | NS | NI |
| Spotted bat<br>(Euderma maculatum) | Cliffs over perennial water, basin-prairie shrub | | NP | NI |
| Swift fox<br>(Vulpes velox) | Grasslands | | S | MIIH |
| Townsend's big-eared bat<br>(Corynorhinus townsendii) | Forests, basin-prairie shrub, caves and mines | | NS | NI |
| **Plants** | | | | |
| Cary beardtongue<br>(Penstemon caryi) | Calcareous rock outcrops and rocky soil in sage, juniper, Douglas fir and limber pine communities, 5200-8500 ft. | | NP | NI |
| Porter's sagebrush<br>(Artemisia porteri) | Sparsely vegetated badlands of ashy or tufaceous mudstone and clay slopes 5300-6500 ft. | | NP | NI |
| William's wafer parship<br>(Cymopterus williamsii) | Open ridgetops and upper slopes with exposed limestone outcrops or rockslides, 6000-8300 ft. | | NP | NI |

## Notes

**[1]Presence**

**K** Known, documented observation within project area.
**S** Habitat suitable and species suspected, to occur within the project area.
**NS** Habitat suitable but species is not suspected to occur within the project area.
**NP** Habitat not present and species unlikely to occur within the project area.

**[2]Project Effects**

**NI** No impact.
**MIIH** May Impact individuals or habitat but will not likely contribute to a trend towards federal listing or a loss of viability to the population or species.
**WIFV*** Will impact individuals or habitat with a consequence that the action may contribute to a trend towards federal listing or cause a loss of viability to the population or species (trigger for a significant action as defined in NEPA).
**BI** Beneficial impact.